(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
29 August 2002 (29.08.2002)

PCT

(10) International Publication Number
WO 02/066952 A2

(51) International Patent Classification[7]: G01N

(21) International Application Number: PCT/US01/49951

(22) International Filing Date: 19 October 2001 (19.10.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/242,165 19 October 2000 (19.10.2000) US
60/242,398 19 October 2000 (19.10.2000) US

(71) Applicant *(for all designated States except US)*: **TARGET DISCOVERY, INC** [US/US]; 1539 Industrial Road, San Carlos, CA 94070 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **SCHNEIDER, Luke, V.** [US/US]; One Johnson Pier, C-30, Half Moon Bay, CA 94019 (US). **HALL, Michael, P.** [US/US]; 1364 Laurel Street, #11, San Carlos, CA 94070 (US). **PETESCH, Robert** [US/US]; 6004 Robertson Avenue, Newark, CA 94560 (US).

(74) Agents: **KEZER, William, B.** et al.; TOWNSEND AND TOWNSEND AND CREW LLP, Two Embarcadero Center, Eighth Floor, San Francisco, CA 94111 (US).

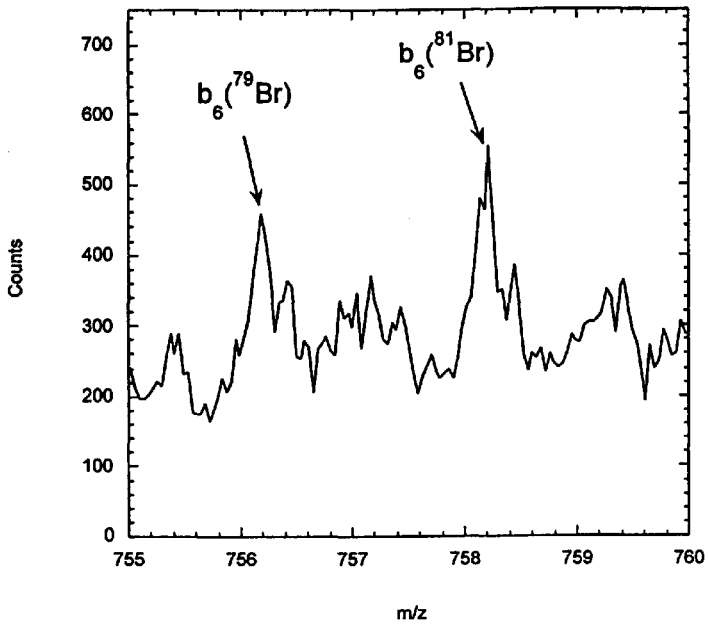
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**
— *without international search report and to be republished upon receipt of that report*

*[Continued on next page]*

(54) Title: MASS DEFECT LABELING FOR THE DETERMINATION OF OLIGOMER SEQUENCES




(57) Abstract: Mass tagging methods are provided that lead to mass spectrometer detection sensitivities and molecular discriminations that are improved over other methods. In particular the methods are useful for discriminating tagged molecules and fragments of molecules from chemical noise in the mass spectrum. These mass tagging methods are useful for oligomer sequencing, determining the relative abundances of molecules from different samples, and identifying individual molecules or chemical processing steps in combinatorial chemical libraries. The methods provided are useful for the simultaneous analysis of multiple molecules and reaction mixtures by mass spectrometric methods.

WO 02/066952 A2

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*